DOCUMENT RESUME

ED 200 130 HE 013 620

TITLE	A Regional Plan for Optometric Education in the West.
INSTITUTION	Western Interstate Commission for Higher Education, Boulder, Colo.
SPONS AGENCY	Health Resources Administration (DHHS/PHS), Hyattsville, Md.
REPORT NO	HRA-80-66
PUB DATE	Sep 80
CONTRACT	HRA-232-78-0130
NOTE	91p.
AVAILABLE FROM	Health Resources Administration, Division of Associated Health Professions, Bethesda, MD 20014.
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	Access to Education; Advisory Committees; Budgets; Clinical Experience; College Admission; Cooperative Programs; Employment Opportunities; Faculty Development; Graduate Students; Higher Education; *Intercollegiate Cooperation; Labor Market; Library Services; *Optometry; Professional Continuing Education; *Professional Education; *Regional Planning; Resource Materials; *Shared Services; Student Recruitment
IDENTIFIERS	Southern California College of Optometry; *United States (West); University of California Berkeley CA; University of the Pacific CA

ABSTRACT

A regional plan for optometric education in the western United States is summarized. Central to the plan is the development of cooperative programs among the region's three schools, the Pacific University College of Optometry, Southern California College of Optometry, and the University of California School of Optometry at Berkeley. A plan for the phased implementation of this regional program, which outlines a schedule and budget for a three-year period, is included. The proposed regional plan is composed of four major programmatic components: access and admissions, a cooperative network of off-campus clinical training sites, a manpower program, and institutional resource sharing. Enrollment needs for each state would be examined on the basis of labor needs and educational access. The three schools would share their fourth-year clinical curriculum while at the same time providing services to participating states. Institutional resource sharing would include the following five activities: development of common learning resource materials, implementation of a joint faculty development program, coordination of graduate student recruitment, coordination of library services, and development of advanced educational programs for practitioners. Coordination of the plan would occur at three different levels. A School Coordinating Committee will be responsible for operation of the educational plan, along with policy and procedural issues related to curriculum. State Coordinating Committees will be responsible for implementation/coordination within each state, and a Regional Advisory Committee will provide overall coordination. (SW)

A Regional Plan for Optometric Education in the West

ED200136

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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HE 013 628

September 1980

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This report is based on work performed under
Contract No. HRA-232-78-0130.
Contract Project Director: Susan D. Klein, Ph.D.

Sponsor:

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Health Resources Administration
Bureau of Health Professions
Division of Associated Health Professions

DHHS Publication No. (HRA) 80-66

FOREWORD

Vision care is a major component of our total health care system. The prevalence of vision disorders throughout the nation is high--about one-fifth of our schoolchildren fail their vision screening examinations; more than half the overall population report trouble in seeing. As primary care providers, optometrists represent a major point of entry for vision care, yet various sectors of our country are without adequate services, particularly the rural portions of the western United States.

In September 1978, under the authorities contained in the Health Professions Educational Assistance Act of 1976 (P.L. 94-484), the Division contracted with the Western Interstate Commission for Higher Education to develop a regional plan for optometric education in the western United States. The study was completed in June 1980.

This report summarizes the results of that study. Central to the plan is the development of cooperative programs among the region's three schools to help ensure equal access to both educational opportunities and health care services for residents of these states. The report also proposes a plan for the phased implementation of this regional program, outlining a schedule and budget for three-year period.

We are pleased to have been able to assist in this effort.

David B. Hoover
Acting Director
Division of Associated Health Professions
Bureau of Health Professions
Health Resources Administration

September 1980

TABLE OF CONTENTS

		Page
List of Tables		v
Project Advisory Committee		vi
Executive Summary		viii
I.	Background to the Development of the Regional Plan	1
II.	Basic Objectives of the Regional Plan	3
III.	Program Features of the Regional Plan	4
	A. Access and Admissions	4
	B. Curriculum Model and the Development of a Cooperative Network of Off-Campus Clinical Training Sites	15
	C. Manpower Program	20
	D. Institutional Resource Sharing and Improvement in the Quality of Education	22
IV.	Flexibility of the Plan	27
V.	Coordinating Mechanisms	28
	A. School Coordinating Committee	29
	B. State Coordinating Committee	30
	C. Regional Advisory Committee	31
VI.	Future of the Plan and Phased Implementation	32
VII.	Financial Plan and Costing Methodology	36
Appendices		41
A.	Executive Summary from Vision Manpower Needs in the Western States	43
B.	Representation at the State Review	47
C.	Existing Clinical Sites in the WICHE States Used by Schools of Optometry	48

TABLE OF CONTENTS
(Continued)

Appendices		Page
D.	State Reactions to Regional Plan	54
E.	Schedule of State Legislative Sessions	56
F.	Total Implementation Budget	58
G.	Budget Justification	63
H.	Operational Budget for New Regional Program Components	69

LIST OF TABLES

Table		Page
1.	Annual Enrollments in Entering Class Calculated to Meet Reasonable Manpower Objectives	7
2.	Annual Enrollments in Entering Class Calculated to Meet Reasonable Student Access Objectives	8
3.	Determination of Equitable Enrollments in Annual Entering Class for Use in the Regional Plan	10
4.	Professional Student Exchange Program: Optometry, Academic Year 1978-1979	12
5.	Estimated Four-Year Student Enrollment Levels for Western Schools of Optometry Under Proposed Regional Plan	12
6.	Equitable Distribution of First-Year Student Spaces by State and Institution	13
7.	Comparison of Minority Enrollment in WICHE Schools of Optometry with Percentage Active Minority Optometrists in WICHE Region (1973) and Percentage Minority in WICHE Population	14
8.	Phased Implementation of Regional Optometry Plan	33
9.	Summary of Projected Five-Year Budget	38

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The Advisory Committee met with the WICHE staff four times over the course of the Project. The Committee has endorsed the concept and design of the Regional Plan for Optometric Education.

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EXECUTIVE SUMMARY

The funding of this project resulted largely from two major questions: is there a shortage of vision care manpower in the West; and does the region need another school of optometry? The question of adequacy of manpower supply is not easily resolved. However, as a regional bridge between those who fund professional education and those who provide that education, the Western Interstate Commission for Higher Education (WICHE) is an excellent mechanism by which to examine issues that are fraught with controversy and special interest.

In cooperation with the three schools of optometry in the West--the Pacific University College of Optometry, Southern California College of Optometry, and the University of California School of Optometry at Berkeley--WICHE has developed a Regional Plan for Optometric Education. The basic goals of the Plan are: 1) to provide educational opportunity to qualified students, whether or not their home state has a college of optometry; and 2) to provide the region with an adequate supply of vision care manpower. In addition, the Plan will increase the services offered by the schools, such as the provision of clinics for underserved populations, continuing education programs for practitioners, and consultative services to state agencies, while strengthening the cooperation among the three schools through the development of a consortium.

Two reports were completed as a basis for this plan. Vision Manpower Needs in the Western States contains a compilation and assessment of existing optometric manpower supply data for the thirteen western states.*

*Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

In contrast to previous manpower reports, this study includes data on the mobility of optometrists as well as data on the distribution of both optometrists and ophthalmologists by county for the region. The second report, Review of Regional Health Professional Programs, identifies existing regional health professional education programs, evaluating the applicability of aspects of these plans for optometry in the West.

The proposed Regional Plan is composed of four major programmatic components:

1. Access and Admissions--enrollment needs for each state examined on the basis of manpower needs and educational access;
2. Cooperative Network of Off-Campus Clinical Training Sites--the three schools would share their fourth year clinical curriculum while at the same time providing services to participating states;
3. Manpower Program--would help facilitate the placement of students in areas of need; and
4. Institutional Resource Sharing--among the three schools would help improve the quality of education.

Coordination of the Plan would occur at three different levels. Because of its unique role in linking with the thirteen states and with the three schools, the overall coordination of the Plan will be supervised by WICHE. A School Coordinating Committee will be responsible for operation of the educational plan, along with policy and procedural issues related to curriculum. State Coordinating Committees will be responsible for implementation and coordination of the regional program within each state. A Regional Advisory Committee will provide the overall coordination among states and schools and will generally supervise the Plan.

The contract which funded the development of this Regional Plan supported only planning. Implementation of this Plan would be phased over a three-year period; a schedule and budget for this implementation have

been developed. Although operational costs of the Plan would be shared equitably by participating states, it appears that further outside funding will be needed to develop the proposed new program components.

The Regional Plan was reviewed in each of the thirteen western states. The State Review process included representatives of higher education, the optometric profession, WICHE, state health departments, and executive and legislative branches of government. The response in most states was very positive.

This Regional Plan would facilitate the cooperation of existing institutions, both public and private, in meeting the diverse needs of the WICHE states. If successful, this Plan, and the process by which it was developed, could provide an innovative model for other health professions and for other regions grappling with problems of manpower and educational access.

A REGIONAL PLAN FOR
OPTOMETRIC EDUCATION IN THE WEST

I. Background to the Development of the Regional Plan

The Western Interstate Commission for Higher Education (WICHE) was awarded a contract (HRA-232-78-0130) by the Bureau of Health Manpower, Division of Allied Health Professions, to develop a Regional Plan for optometric education in the thirteen western states. This contract, awarded in September of 1978, supported only planning; further funding will be required to implement the Plan. The basic goals of the Plan are:

- To provide adequate educational opportunities, and
- To ensure that the western states will have enough manpower to meet their vision care needs.

The unique features of the Plan are:

- To improve the services which the existing schools of optometry provide to the western states, and
- To develop cooperative programs among the three schools which can better meet the region's needs.

The project's Advisory Committee met periodically with WICHE staff to help develop the Regional Plan; this committee was composed of representatives of both administrative and legislative branches of state governments, state higher education agencies, the optometric profession, health planning agencies, educational institutions, and others. Contacts were also made with state, regional, and national organizations of the optometrists. Representatives of the three western optometry schools (University of California, Berkeley, School of Optometry; Southern

California College of Optometry; and Pacific University College of Optometry) were actively involved in developing a sound program.

Two reports were completed during the first year of the contract. A manpower report, Vision Manpower Needs in the Western States, examines characteristics of the current supply of optometrists in the West and projects the supply to the year 2000; optometric school enrollments and factors affecting the need and demand for vision services were also analyzed. The Executive Summary of this report is included in Appendix A. A second report, Review of Regional Health Professional Programs, reviews active regional health professional education programs in the western states and existing regional optometric education plans in order to determine their applicability to the regionalization of optometry education in the western United States. These two reports provided the basis for the proposed Regional Plan.

A draft of the preliminary Regional Plan was approved by the Advisory Committee in October, 1979. WICHE then reviewed the Regional Plan with key decision makers in each of the thirteen western states. The state review process included representatives of higher education, the optometric profession, WICHE, state health departments, and the executive and legislative branches of government. Appendix B contains a chart of representatives attending each state review. The primary purpose of these reviews was: 1) to assess the interest of each state in participating in the regional program, and 2) to assess what state resources are available to implement the Plan. The results of the thirteen state reviews have been incorporated into the project's final report. At the time of the report's publication, additional funding was still being sought to implement the proposed Plan and to develop new program components, until operational costs can be assumed by participating states as a part of WICHE's Professional Student Exchange Program support fees.

II. Basic Objectives of the Regional Plan

The health manpower policies of the country are in transition. Policy changes are being affected by several different realizations. First, it appears that the United States may not be facing a "shortage" of health practitioners, but rather a maldistribution problem. Some areas of the West are underserved--most often rural or inner city areas; innovative efforts must be made to encourage new practitioners to serve in these areas. It has become clear that simply producing more practitioners will not necessarily result in improved health status of the population; there is now greater interest in training primary care practitioners instead of specialists. Optometrists are primary vision care providers; they often provide the patient's first contact with the larger health care system. The optometrist may help detect and prevent more serious health problems and refer the patient to a specialist. In addition, optometrists are more likely than physicians to settle in rural areas; optometry services are often more accessible to many of our citizens than other kinds of health care.

It is also apparent that all manpower problems may not be best solved at the federal level; there is growing interest in developing state and regional solutions to these problems. This Plan to regionalize optometric education represents a unique approach to meeting the primary vision care needs of the West. Federal monies have provided an incentive to change; however, real responsibility for the development and implementation of the Plan rests at the state and regional level. The result of this partnership is a Plan which can be responsive to the diverse needs of the western region.

The goals of the program are directed toward the fulfillment of the educational and service needs of the thirteen western states with the assistance of the three optometry schools existing within the region. Each

component of the program relates to one or more of these general objectives. The following goals of the Plan are not mutually exclusive, but are in fact complementary:

- Provision of educational opportunity to qualified students, whether or not their home state has a college of optometry;
- Provision and maintenance of an adequate supply of optometric manpower appropriately distributed within the western region;
- Improvement in the delivery of primary vision services to the public;
- Enhancement of the quality of optometric education; and
- Assurance of the finarcial stability of the optometric schools in the WICHE region in carrying out the various components of the Regional Plan.

III. Program Features of the Regional Plan

A. Access and Admissions

The implementation of a regional admissions plan will provide educational opportunity to qualified applicants in the region and maintain an adequate supply of optometric manpower in each of the western states. The schools have already been pursuing regional admissions plans by participating in WICHE's Professional Student Exchange Program (PSEP) and other direct state contractual mechanisms, and by establishing state enrollment guides within their individual admissions processes. Implementation of a single, coordinated plan for the region would provide more equitable matching of educational resources with states' needs.

There are three schools of optometry in the thirteen western states: Pacific University College of Optometry in Oregon; Southern California College of Optometry in Fullerton, California, and the University of

California School of Optometry in Berkeley. The first two schools are private. The University of California at Berkeley is public and admits mostly California students. At the time the WICHE manpower study was written, there were thirteen schools of optometry in the nation; two new schools have since been opened.

While there are thirteen schools of optometry in the United States, it appears that the optometric education of students from the WICHE region is increasingly concentrated in the schools within the region. In 1977-78, over 90 percent of first year optometry students from WICHE states were enrolled in the western schools.

While the percentage of female enrollments in schools of optometry seems to be improving, the same does not hold true for Blacks, Hispanics, and Native Americans. The proportion of these minority groups enrolled is consistently well below the proportion in the population.

There are two equally important factors which states weigh in deciding how many students to support in any field: educational opportunity and the state's need for manpower. Data on both of these factors are presented in WICHE's manpower study. The particular value placed on these two factors varies from state to state. There are some states that wish to provide their residents high access to professional degree programs even though these states may be reaching a point of oversupply of manpower. Other states may wish to support students mainly on the basis of projected manpower needs and do not place as great importance on providing educational opportunity.

Table 1 presents information about the number of students which should be supported by each state on the basis of manpower considerations alone. The supply of optometrists in the region has increased slightly from 10.9 to 11.4 optometrists per 100,000 population since 1973. Eight

states currently have ratios well below the regional average of 11.4: Alaska, Arizona, Colorado, Hawaii, Nevada, New Mexico, Utah, and Washington.* On the basis of manpower projections, it appears that several states should increase significantly the number of students enrolled in schools of optometry (Arizona, Colorado, Nevada, Utah). However, it should be noted that manpower projections are often subject to error, particularly because of inaccuracy in predictions of population growth and migration.

Table 2 presents information relating to access to optometry education in each state. It is difficult to find one best indicator of educational access. The measures in the first two columns are not entirely satisfactory measures of access. Total population in column (1a) and bachelors degrees in column (1b) are proxies, proportionately, for the numbers of state residents reaching the age where they would be eligible to apply for professional education in optometry. Another proxy for this number (in each state) is the number of high school graduates four years prior to the year concerned; it may reflect more precisely the number of long-time state residents which should be given access to optometric education. The annual number of high school graduates will vary considerably over the period 1976-1986, resulting in varying ratios of access from 1980-1990 when this proxy is used in the measure of access; columns (3 a, b, and c) show these varying access ratios. The final column summarizes the various information and suggests the number of students which should be supported by each state on the basis of access to education only.

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*These data have been taken from WICHE's report entitled, Vision Manpower Needs in the Western States (June, 1979).

TABLE 1

ANNUAL ENROLLMENTS IN ENTERING CLASS CALCULATED TO MEET REASONABLE MANPOWER OBJECTIVES

State	Optometrists Per 100,000 Population: Current Ratio 1978	Optometrists Per 100,000 Population: Reasonable Objective 2000[1]	Annual Enrollment in Entering Class to Meet Objective[2]	Special Considerations[3]	Indicated Number from Standpoint of Manpower
ALASKA	9.2	11.4	0.0	Sparsity of population. Needs of native groups.	1
ARIZONA	8.4	11.4	7.4	Proportion of aged population requiring greater care.	9
CALIFORNIA	12.5	12.5	79.6		80
COLORADO	9.3	11.4	15.5	Prospective energy boom may prove population projection to be low.	16
HAWAII	9.4	11.4	3.7		4
IDAHO	12.2	12.2	0.4	Low ratio of ophthalmologists	1
MONTANA	15.1	15.1	7.6	Present very high ratio. Low ophthalmologist ratio	7
NEVADA	8.3	11.4	6.1		6
NEW MEXICO	7.4	11.4	6.4		7
OREGON	13.6	13.6	6.1		6
UTAH	6.7	11.4	12.4		12
WASHINGTON	9.9	11.4	22.7	Migration measure probably reflects abnormal period of soft economy. Recent heavy in-migration probably has reversed that reading.	18
WYOMING	13.0	13.0	0.0	Population projections--probably low.	0
REGION	11.4	12.2	167.9		167

[1] Those now above regional average are kept at current ratio. Those now below are raised to regional average.

[2] Assumes students return to home state at recent rate and assumes migration at recent rate. (p. 80, Vision Manpower Needs in the Western States.)

[3] See state summaries in Vision Manpower Needs in the Western States, from page 85 on.

TABLE 2

ANNUAL ENROLLMENTS IN ENTERING CLASS CALCULATED TO MEET REASONABLE STUDENT ACCESS OBJECTIVES

State	Column 1 — Average for 1975-1977 Entering Classes: a — Number[1] per 100,000 Population	Column 1 — Average for 1975-1977 Entering Classes: b — Number per 100[1] Bachelor Degrees Granted in State	Column 2 — Number[2] Needed/1980 Population to Meet Region Average (.50)	Column 3 — Ratio of Number[3] in Preceding Column Per 1,000 High School Grads 4 Years Earlier: a — 1979-1981	Column 3: b — 1984-1986	Column 3: c — 1989-1991	Column 4 — Special Considerations	Column 5 — Indicated Number from Standpoint of Student Access
ALASKA	.40	.33	2	.443	.358	.403		2
ARIZONA	.35	.09	13	.494	.444	.464		12
CALIFORNIA	.45	.12	112	.417	.445	.508	As in other professional fields, California can be expected to have significant numbers enrolled in schools outside region	95
COLORADO	.38	.07	14	.392	.381	.419		15
HAWAII	.82	.20	5	.439	.436	.536		5
IDAHO	.51	.15	5	.395	.384	.399		5
MONTANA	1.27	.26	4	.326	.348	.419	High interest & past generous support	5
NEVADA	.86	.37	3	.394	.335	.365		4
NEW MEXICO	.71	.17	6	.332	.330	.400		7
OREGON	.57	.13	12	.393	.403	.428		12
UTAH	.54	.07	7	.354	.350	.351		9
WASHINGTON	.45	.10	18	.353	.362	.396		20
WYOMING	1.61	.50	2	.348	.326	.328	State's policy of providing great access in many professions	4
REGION	.50	.12	203	.402	.413	.460		195
U.S.	.49	.12						

[1] Vision Manpower Needs in the Western States, page 59. Also, see footnotes there.

[2] 1980 population from individual state tables in Vision Manpower Needs in the Western States.

[3] High school graduates from Projections of High School Graduates in the West, published by WICHE, June 1979.

Table 3 summarizes the data suggested by both manpower and access considerations, compares those figures with current enrollments, and suggests an equitable target for each state. The numbers listed in the columns on Table 3 reflect a series of judgments based on the data presented in Tables 1, 2, and 3. States may wish to consider other factors in deciding what numbers of students to support. For instance, these numbers do not in any way reflect a correction of the underrepresentation of minorities. In addition, these numbers assume that all graduates will become active practitioners; in reality, all do not become active practitioners. A state's final judgment about how many students to support in optometry is clearly subject to fiscal, political, and other considerations. Table 4 shows how many students are currently being supported by states through the traditional Student Exchange Program administered by WICHE.

In this Regional Plan, access to education would be achieved through legislative action in individual states. The three schools collectively would guarantee a minimum number of admission slots for qualified applicants from each of the participating states. In other words, the states within the region would be assured that a certain percent of the enrollments will come from the sending states, provided that the applicants are qualified. The minimum number of admission slots for each participating state would be established on the basis of recent application and acceptance trends in each of the three schools. Decisions on individual admissions would be made by each school. Equitable distribution of the region's students regarding admissions to the three schools would occur through individual school action, cooperating with the advice of a Regional Advisory Committee (see the description of Coordinating Mechanisms on Page A-28).

TABLE 3

DETERMINATION OF EQUITABLE ENROLLMENTS IN ANNUAL ENTERING CLASS
FOR USE IN THE REGIONAL PLAN

	Indicated Annual Number in Entering Class		Average[1] Number Actually Enrolled 1974-1978	Current Limit[2] on Number Supported in WICHE PSEP	Number[7] Used in Regional Plan	State Decision About Number of Students to Support
	From Manpower Standpoint	From Access Standpoint				
ALASKA	1	2	1.5	No limit	2	
ARIZONA	9	12	7.0	6	11	
CALIFORNIA	80	95	94.5	(57)[3]	90	
COLORADO	16	15	8.0	10	15	
HAWAII	4	5	8.0	6	5	
IDAHO	1	5	4.0	4	4	
MONTANA	7	5	7.5	5	6	
NEVADA	6	4	4.5	4	5	
NEW MEXICO	7	7	9.0	7[4]	7	
OREGON	6	12	14.0	7	10	
UTAH	12	9	7.0	4	10	
WASHINGTON	18	20	18.5	11	19	
WYOMING[8]	0	4	8.0	9[5]	4	
REGION	167	195	191.5	76[9](133)[6]	188	

[1]Individual state tables in Vision Manpower Needs in the Western States.

[2]WICHE PSEP administrator.

[3]Californians in U. of California, Berkeley entering class, 1977-78; other Californians attend Southern California College of Optometry, Pacific U. College of Optometry, and out-of-region schools.

[4]Includes 3 contract places at Houston.

[5]Under bilateral contracts with Southern California College of Optometry and Pacific University College of Optometry, not WICHE.

[6]Including the 57 for California.

[7]NOTE: this number reflects a judgment by the WICHE staff about the minimum number of students which should be enrolled by each state.

[8]Wyoming will support all students who wish to attend optometry school.

[9]Includes a figure of 3 for Alaska.

Under the Regional Plan, students could apply to any or all schools. Acceptance at one school would not guarantee acceptance by another school. To facilitate regional program operation, schools would adopt a common date for announcing student acceptances. The student would also choose which admissions opportunity he or she wished to accept.

Under this Regional Plan, the participating schools would give preference to qualified students from the participating states. The schools could accept qualified students from other states outside the region to fill those spaces not required by the states participating in this Plan.

On the basis of the WICHE data on manpower and access, it appears that the region's three existing optometry schools will be able to meet the needs of the West as currently projected. Assuming that all thirteen states participated in the Plan at the level suggested in Table 3, the region would require about 800 slots in the three schools of optometry over four years (see Table 5). The enrollment capacity of the three schools is about 1,000; thus, the region would require about 80 percent of available seats. Assuming that past state-school enrollment patterns continue, the region's students would distribute fairly equally among the three schools (see Table 6).

The number of applicants has started to decrease in all health professions, including optometry. Minorities are seriously underrepresented in the profession, while women are less so (see Table 7). In order to maintain a large enough applicant pool, particularly of minorities and/or applicants from underserved areas, it is proposed that recruitment efforts be established and coordinated on a regional basis. Recruitment materials would be developed that contain information about all three schools, as well as about the WICHE Student Exchange Program. The involvement of a Regional Advisory Committee, State Coordinating Committees,

TABLE 4

PROFESSIONAL STUDENT EXCHANGE PROGRAM: OPTOMETRY

ACADEMIC YEAR 1978-1979

Sending State	Receiving School: Southern California College of Optometry	Receiving School: University of California School of Optometry	Receiving School: Pacific University College of Optometry	Total No. of Students
ALASKA	2	1	4	7
ARIZONA	18	-	7	25
COLORADO	7	2	9	18
HAWAII	11	2	10	23
IDAHO	6	-	10	16
MONTANA	18	-	16	34
NEVADA	14	-	3	17
NEW MEXICO	13	-	5	18
OREGON	6	1	29	36
UTAH	14	-	4	18
WASHINGTON	11	1	27	39
TOTAL	120	7	124	251

TABLE 5

ESTIMATED FOUR-YEAR STUDENT ENROLLMENT LEVELS FOR

WESTERN SCHOOLS OF OPTOMETRY UNDER PROPOSED REGIONAL PLAN

School	1980	1985	1990
Pacific University College of Optometry (PACU)	212	220	233
Southern California College of Optometry (SCOPT)	204	230	271
University of California, Berkeley School of Optometry (UCB)	240	248	248
TOTAL			752

TABLE 6

EQUITABLE DISTRIBUTION OF FIRST-YEAR STUDENT SPACES
BY STATE AND INSTITUTION

State	Pacific University College of Optometry	Southern California College of Optometry	University of California College of Optometry	Total
ALASKA	1	0.5	0.5	2
ARIZONA	7	3	1	11
CALIFORNIA	8	29	53	90
COLORADO	7	6	2	15
HAWAII	2	2	1	5
IDAHO	3	1	0	4
MONTANA	3	2	1	6
NEVADA	1	3	1	5
NEW MEXICO	1	5	1	7
OREGON	8	1	1	10
UTAH	1	8	1	10
WASHINGTON	14	4	1	19
WYOMING	1	3	0	4
TOTAL	57	67.5	63.5	188

TABLE 7

COMPARISON OF MINORITY ENROLLMENT IN WICHE SCHOOLS OF OPTOMETRY WITH PERCENTAGE ACTIVE MINORITY OPTOMETRISTS IN WICHE REGION (1973) AND PERCENTAGE MINORITY IN WICHE POPULATION*

Race/Ethnicity	Percent of Active WICHE O.D.'s, 1973	Percent in WICHE Region Population, 1976	Percent Enrolled in Three Optometry Schools In WICHE Region, 1977-78
Black	.3% (n = 10)	5.3%	1.2% (n = 12)
Hispanic	.4% (n = 15)	12.4%	2.7% (n = 27)
Native American	.1% (n = 4)	1.2%	.2% (n = 2)
Asian American	6.6% (n = 265)	3.1%	11.5% (n = 113)

SOURCES: Optometrists--Optometric Manpower Resources, 1973.

Minority Population Ratios--Access and Retention of Minorities in Higher Education, WICHE, 1978, and U. S. Department of Health, Education, and Welfare Survey of Income and Education, 1976.

Enrollments--American Optometric Association, Report to the House of Delegates, June 20, 1978.

*This table is taken from Vision Manpower Needs in the Western States, June, 1979.

state optometric associations, and private practitioners would be critical in this effort to identify, recruit, and retain minority students (see the discussion of Coordinating Mechanisms, p. A-28).

In order to implement the access and admissions component of the Regional Plan, two mechanisms would be necessary. The proposed Regional Advisory Committee would review current enrollment data, periodically assess the optometric manpower needs of the states and the region, provide input from each of the participating states, make recommendations to the schools regarding admissions policies, and serve as a liaison between applicants and individuals responsible for the processing of applications at the three schools of optometry. The State Coordinating Committee would provide advice about access and admissions in each state; a member of this State Committee would also be a member of the Regional Advisory Committee. A procedure could be established to allow members of the State Committee to assist in the initial application review or to provide an opportunity for the applicant to be interviewed in his or her own state.

B. Curriculum Model and the Development of a Cooperative Network of Off-Campus Clinical Training Sites

The first year optometric curriculum includes specialized coursework, requiring special equipment and staff, in addition to the basic science coursework. Without a need to expand enrollments, decentralization of the basic science instruction would result in under-utilization of existing facilities and unnecessary duplication of equipment and staff at other sites.

Decentralization of the clinical curriculum during the fourth year appears desirable, however. Each of the schools has already developed some extramural clinical sites. Although these sites are often of inconsistent quality, they provide needed clinical materials, as well as exposure to different practice settings.

This program feature addresses several objectives of the Regional Plan. These clinical training sites will help encourage optometry students to practice in underserved areas, will improve the quality of vision services available to the public, and will improve the quality of students' educational experiences.

It is recommended that: 1) at least one clinical site be established in each participating state, and 2) that the three schools should cooperate in the operation of these clinics and in the placement of students. It has been much easier for schools to send students to off-campus training sites that are close to the campus. This trend has helped to encourage students to set up practice in that area with which she/he is most familiar; that is one reason that Oregon and California have such favorable ratios of optometrists.

The three optometry schools within the WICHE region will have the responsibility for the establishment and maintenance of at least one clinical training site in each participating state in the region. Because of the cooperation among the schools, each of the institutions would assume responsibility for clinic site development in only about five of the thirteen western states. Students from a particular state would be required to return to their home state or to another underserved area for at least one clinical rotation and, in some cases, for most of their off-campus clinical assignments. It is believed that this will increase the likelihood of students beginning practice in these locations. A cooperative agreement would be developed between the schools that would permit students attending any of the three schools to obtain some of their clinical training in a clinic in their home state--no matter which school maintained that clinic.

Although optometrists tend to distribute more evenly than do physicians, there is a marked maldistribution of optometrists within the region. The Regional Plan would encourage the schools to work with the states (health departments, health systems agencies, and optometric associations) to identify underserved areas or populations. Geographically underserved areas may include remote rural areas or inner city, low income census tracts. Underserved populations may include minority groups, those with learning disabilities or other handicaps, and the elderly.

Our population is rapidly becoming more aged; the more aged the individual the greater is his or her need for vision care. During the mid-forties, loss of elasticity of the lens (presbyopia) makes reading more difficult and reading glasses are usually required. At this age, the incidence of glaucoma, cataract, and other degenerative diseases begins to increase. During the sixties and seventies, vision problems become more common, more severe, and more debilitating. There are thousands of older people in the region who suffer with poor vision, when adequate treatment could bring them near-normal vision.

Low vision care--which could help many elderly function more independently--is not easily accessible in many areas of the West. There are only about 43 cities in the entire United States which have facilities providing comprehensive low vision care, and the majority of these facilities are open only one day a week. This kind of care is generally not provided by private practitioners because they lack specialized training and equipment; in addition, providing this kind of care can be time-consuming and tedious. Therefore, low vision clinics are the main source of care to patients who need this kind of service. The low vision clinic established cooperatively by the Southern California College of Optometry with

the State of Nevada could serve as a model for other states; it provides a learning center for students as well as needed care to patients.

While the projected increase in the need for vision care in the region can be greatly attributed to a simple increase in the size of the population, there are some states where the aging of the population will significantly affect the need for services. Arizona, for instance, is projected to increase its need for optometric services by more than ten percent by the year 2000 simply because of the increased proportion of aged in that state.

Another drastically underserved group in the West is children with learning disabilities. These problems require multidisciplinary intervention. If appropriate care is not given, the development of the child's potential may be seriously limited. While it is very difficult to know precisely how many of these children in the West do not receive adequate care, it is certain that the cost of this unmet need to society is great.

The development of well-supervised, off-campus clinical training programs can provide valuable learning opportunities for students. Often the clinics operated at the schools provide exposure to a homogeneous, basically healthy patient population. In a "real life" setting, the student is confronted with a larger number of patients, a greater variety of types of people, and a larger variety of health problems.

In addition, the student will be exposed to different types of practice models--for instance, the health maintenance organization setting. Many of the clinical training sites will provide students an opportunity to work in a multidisciplinary setting--perhaps learning how to interact with the family physician or an ophthalmologist. At the same time, these training sites can help provide vision care to people who may not otherwise receive care.

The schools have already developed a number of clinical training sites through the region (see Appendix C). These clinics provide educational experiences for the students as well as vision care to patients. These clinics, along with the new ones designed to meet the needs of the region and the participating states, would comprise the off-campus network. Only four states have no active outreach clinic: Idaho, Utah, Wyoming, and Montana.

In addition to providing education experiences and patient care, the off-campus clinics could:

1. Make available the consultative resources of the three schools of optometry to state and local governments, departments of health or education, for example, and to other organizations, such as consumer groups, research foundations, and educational institutions.
2. Provide an organizational base from which to recruit minority students.
3. Provide a base from which to develop advanced educational or residency programs at appropriate clinical locations, particularly clinically-based continuing education programs, to help ensure the clinical competence of practitioners.
4. Foster the cooperative exchange of students and faculty in the various clinical training programs. This exchange would provide a broader range of learning experiences for both students and faculty.
5. Provide vision care practitioners in the various areas with a referral site for unusual cases needing specialty services, as well as consultative services in individual problem cases.

Policy and operational problems involved in developing a cooperative clinical network will be resolved by appropriate representatives of the colleges. The operation of the network will rest with the colleges. State and Regional Coordinating Committees will provide advice and guidance to the schools about state and regional needs relative to the operation of the network.

C. Manpower Program

One of the most important objectives of the Regional Plan is to ensure an adequate, appropriately distributed manpower supply. There is a serious maldistribution of optometrists within the region. One state has 15.1 optometrists per 100,000 population, whereas another has only 6.7. Furthermore, projections show that this maldistribution will persist if no policy changes are implemented. In addition, minorities are dramatically underrepresented among practicing optometrists as well as among optometry students.

Career guidance and recruitment of qualified students, including females and minorities, would be a vital part of the program to ensure appropriate representation of all ethnic and racial groups and also to ensure an adequate future supply of optometrists in each of the western states. These activities would be coordinated with the state optometric associations. The decentralization of clinical sites provides an opportunity to encourage minority students to enter the profession. A regional program would provide visibility to the optometry profession and the opportunities for optometric education in the West; this visibility would help generate sufficient numbers of qualified applicants to improve the current maldistribution of optometric practitioners.

A decentralized network of clinical placement sites will provide an important basis for the manpower program. A stronger relationship between the schools and representatives of optometry would lead to a coordinated and continuous effort to facilitate the return of graduates back to their sending states or to other areas needing optometrists. Optometric associations and practitioners could provide assistance and guidance to students pursuing the professional degree program. In addition to providing externship placement opportunities, practicing optometrists could identify potential clinical training sites and assist in developing clinical programs that would serve areas of unmet vision care needs within the state(s), whether in the private or public sectors.

Although each optometry school now has a method of assisting new graduates to find a place to practice, the practice selection process could be significantly improved. A coordinated program that would involve the entire region and all three schools would enhance the placement process. Emphasis would be given to assisting the graduate from a particular state to return to the sending state and/or to other areas of unmet need to provide vision care. Such a service would assist the new graduate, as well as the active or retiring practitioner who is in need of an assistant or associate.

Specific components of the manpower program would include:

- Cooperation among the existing recruitment and placement activities of the three colleges;
- Linkage between the colleges and optometric professional organizations in each of the states;
- Use of the National Health Professionals Placement Network, based at the University of Minnesota, or a similar data-based

system, to provide graduating students greater access to information about communities needing optometrists; and

- Development of student materials about how to select a practice site (e.g., available sources of data, how to evaluate data, indicators of need, whom to contact, etc.).

The thrust of the manpower program is to increase information sharing and to make future practitioners more aware of where their services are actually needed. Individual states may wish to explore specific incentives to encourage practitioners to locate in serious shortage areas. However, increased access to information at a regional level should contribute to the solution of the maldistribution problem.

D. Institutional Resource Sharing and Improvement in the Quality of Education

One of the stated objectives of the proposed regional program is the enhancement of the quality of optometric education within the western states. This objective is addressed by several program elements, including the institutional resource sharing component. In general, this component is envisioned as newly developed, formalized interaction among the schools to improve the quality of education. Specifically, institutional resource sharing would include the following five activities:

1. Development of common learning resource materials,
2. Implementation of a joint faculty development program,
3. Coordination of graduate student recruitment,
4. Coordination of library services, and
5. Development of advanced educational programs for practitioners.

Development of Common Learning Resource Materials

During the implementation phase of the regional program, teaching and evaluation materials will be developed for the off-campus clinical sites.

Rather than each site developing its own independent learning resources, the schools will cooperatively develop the required instructional materials. The necessary learning resources would include items such as instruction guides, audio-visual aids, model case analyses for small group seminars, on-site reference resources, and clinical evaluation tools.

Prior to developing the learning resource materials, the clinic directors and faculty members from the three schools need to review the existing outreach programs to determine their similarities and differences. After this review, a teaching model will be selected for implementation at those sites which may accommodate students from all schools. Once the model has been selected, the clinic directors or faculty will develop the learning resources to support the mixture of seminars, self-study, and clinical work that will occur at these sites.

The process that is used to develop materials for the outreach clinics will establish an operational model that may extend to other areas of the curriculum. In future years, common resource material could be developed or exchanged for selected courses. Such efforts reduce duplication, facilitate information exchange, and increase the resources available to a faculty.

Implementation of a Joint Faculty Development Program

Once the off-campus clinical sites have been selected, faculty will be hired to staff these clinics. In order to assure that these teaching programs operate in a parallel fashion, the clinical faculty will participate in an annual orientation and development program. This program will be presented by the clinic directors and faculty of the three colleges and will be one or two days in length.

Initially, the program's objectives will focus on informing the outreach faculty of their teaching and evaluation responsibilities relative to the schools' curriculum. Future programs, however, will focus on knowledge acquisition and skill development. The subject matter will be selected to improve both clinical and teaching skills of the outreach clinic staff. In addition, these annual meetings will serve as a valuable management tool for coordinating the activities of the many outreach clinics.

In future years, the faculty development for the clinical faculty could be expanded to include faculty from other curricular areas. An annual program would facilitate exchange among the three schools and lead to overall curriculum improvements. Such a program would prove especially beneficial to new faculty members. Complementary to an annual instructional conference, short-term exchanges of faculty could be arranged to allow faculty to pursue development activities not available at their institution. These exchanges may permit coordination of research, development of joint proposals, and interaction with recognized experts in one's field. Faculty could undertake some teaching responsibilities during these exchanges which would broaden the education of the students at participating institutions.

Coordination of Graduate Student Recruitment

Each of the three existing institutions offers some form of graduate education. These programs are essential for the development of faculty and practitioners for secondary and tertiary care. Highly qualified students from all three schools should be encouraged to enter the doctoral program at the University of California, Berkeley, School of Optometry. Qualified students in the region's schools should also be encouraged to enter the residency program at the Southern California

College of Optometry and the master's program at the Pacific University College of Optometry. The recruitment of students into such programs can be facilitated by the development of a brochure outlining all of the graduate education opportunities offered by the three schools. Information can also be disseminated through individual and group sessions between faculty and students from different schools. These sessions could probably be arranged with minimal additional costs if coordinated with scheduled regional program travel for faculty or administrators.

The regional program can also facilitate the development of new graduate programs. It would appear that the regional program could serve as a vehicle to coordinate the development of residency programs within the western states. A residency program affiliated with all three western schools could utilize resources from all institutions and at the same time eliminate the competitiveness and duplication that sometimes develops in such activities.

Coordination of Library Services

The western states' optometric literature needs can better be served with a more formal library arrangement with the three western educational optometric institutions. Many health science personnel in states without a visual science educational center are unable to fill their information needs. Libraries' acquisition lists of new books might be helpful. New audio visuals available on vision and new journals which have recently been published are all areas in which visual scientists could find needed information. Reference questions can be answered immediately over the telephone or, if more complicated, through the mail. Bibliographies could be compiled and literature searches done by computer terminal. Current research results will be available more quickly to the practicing optometrists.

The libraries of Pacific University, University of California, Berkeley, and Southern California College of Optometry cooperate in some ways already. The Association of Visual Science Librarians brings together libraries interested in visual science. Its annual meeting gives them an opportunity to discuss mutual problems and solutions each year. During the last meeting, the agenda included papers on indexing in visual science, library collection policies, acquisition approval plans, standards and accreditation, and SCCO's media resources project.

During 1979, a supplement to the Union List of Vision-Related Serials was completed and will be available to all participating libraries. The Union List enables the librarians to ask for material in another library through interlibrary loans which otherwise might be difficult to locate. In addition to journal articles, books or theses may be borrowed on the same interlibrary loan agreement.

Development of Advanced Educational Programs for Practitioners

Through the regional program, the three schools will cooperate in delivering educational programs for practitioners. These may take the form of current continuing education offerings, clinical residencies, structured individual study, or advanced clinical training. The latter concept is of particular importance with respect to the regional program. The clinical training sites established within the participating states can provide the facilities for clinical education programs for practitioners. Such programs could be designed to upgrade the general skills of practitioners or teach new clinical techniques. Programs could be intense in nature and structured for small groups. The clinic staff and/or visiting faculty would serve as instructors, and cost savings could be incurred by utilizing these resources during nonacademic periods.

Also, practitioners who served as part-time instructors in the outreach clinics could benefit from the structured faculty development programs discussed above. While professional student education is one purpose of the outreach clinics, another is to extend the advanced educational opportunities of the colleges into the community.

The above five activities are but some of the programs that can result from structured interaction among the three schools. Most likely other areas will be investigated as the regional program is implemented. Whatever activities are pursued, the adoption of a regional approach can greatly improve the quality of optometric education when compared to plans where each institution operates its own independent programs. Furthermore, the desired results will be obtained at a lower cost through a regional program of resource sharing.

IV. Flexibility of the Plan

It is acknowledged and respected that each of the schools of optometry has different strengths and that each of the western states has unique needs. This Regional Plan addresses the problem of educational access, improved quality of education, the return of graduates to the sending state, optometric manpower maldistribution within the states and the region, continuing education, and other services provided to the sending states.

The state reviews of the Regional Plan showed that the states differ in the way they view the pros and cons of the Plan (see Appendix D). The State Coordinating Committee would review the particular needs of each state and help determine how the Plan should be implemented.

The states will have some options within the basic Plan. One series of options may be developed around the type of clinical training

site needed in that state. A state may identify a particular need for vision care which the school(s) in concert with the state optometric association could meet.

Another option may be to develop a state optometric educational center, either freestanding or within the state's university system, that could coordinate the state's optometric educational activities. These centers could be primarily responsible for evaluating the continuing educational needs of the optometrists and their paraoptometric personnel, developing and arranging programs to meet those needs, and maintaining transcripts of continuing education credits. The centers could also coordinate preprofessional curricula within the state's undergraduate institutions, provide pre-optometry counseling services, coordinate and act as liaison to the schools on matters of career guidance and admissions, and operate a placement service for the state. The educational center could also maintain a liaison role between licensed optometrists and educators. A state optometric educational center, in concert with a Regional Advisory Committee, could be responsible for ensuring that the regional program is responsive to the needs of the state. It is recognized that in some states this concept may not be appropriate; however, a series of options would allow for the basic Plan to be modified to meet individual state needs.

V. Coordinating Mechanisms

Because of its unique role in linking the thirteen western states with the three optometry schools in the region, the overall administration of the Regional Plan would be supervised by WICHE. It will be WICHE's role: to convene the Regional Advisory Committee; to work with the three schools to arrange for the equitable allocation of students' positions;

to establish student support fees; and to work with states to establish support levels. During the implementation of the Regional Plan, WICHE will also work closely with the School Coordinating Committee and help to establish the State Coordinating Committees. Curriculum matters will clearly be within the domain of the participating colleges of optometry.

Coordination of the program will take place at three different levels: at the school level, at the state level, and at the regional level.

A. School Coordinating Committee

In terms of actual implementation and operation of the Plan, the coordination of the schools of optometry participating in the Plan will be crucial. While the basic decision to join the Regional Plan may rest with high level administrators, practical and procedural decisions will be made by faculty who actually run the educational programs. Each of the participating schools should appoint one faculty/administrator who will be responsible for the coordination of all regional program activities within the school. This person will also serve on the School Coordinating Committee and the Regional Advisory Committee. The School Coordinating Committee will be composed of representatives of all the participating schools as well as a representative of WICHE. This Committee will appoint subcommittees as appropriate to help resolve policy and procedural issues; for instance, a subcommittee of clinic directors may be appointed to advise on curricular and evaluation policies related to the clinical site network. This Committee will receive advice about policy and procedural issues from the Regional Advisory and State Coordinating Committees.

B. State Coordinating Committee

This Committee will be responsible for the implementation and coordination of the regional program within a state. In addition, the State Committee will provide information about the state's needs to the Regional Advisory Committee and to the schools of optometry. The role of this Committee could vary from state to state.

The composition of this Committee in each participating state will include representatives from the following:

1. State optometric association,
2. Legislative or administrative branches of government,
3. State higher education executive officer or other appropriate person,
4. WICHE Certifying Officer, and
5. State health department or health systems agency.

The Regional Advisory Committee will determine the method of selection of the members of the State Committees. One member of the State Committee will represent the state on the Regional Advisory Committee.

The State Committee would organize and/or participate in the following activities:

1. Career guidance and recruitment of qualified applicants,
2. Assist schools in the admissions process,
3. Cooperate with manpower aspects of Plan--by identifying areas of unmet needs, establishing clinical placement sites, and assisting in graduate placement,
4. Ensure continued support of Plan by the state,
5. Communicate to appropriate agencies, institutions, and/or groups regarding the Plan, and

6. Assist in implementing the continuing education component of the Plan.

C. Regional Advisory Committee

The Regional Advisory Committee* will be composed of representatives of participating schools and states and WICHE. This Committee will provide the overall coordination among states and schools and generally supervise the Plan. This body shall have procedural and policy making responsibilities and would make amendments to the Plan as appropriate. Matters affecting the schools would have to be ratified by the participating schools. Matters affecting the states would have to be ratified by the appropriate state agencies. Access to education would be achieved by legislative action in individual states, and the three schools collectively would guarantee a minimum number of slots to qualified students (as described under Access and Admissions earlier in this document).

The following are some of the policy areas for which the Committee will have responsibility:

1. Make recommendations to the WICHE Commission about support fees and levels,
2. The allocation of admissions,
3. The selection of clinical sites, and
4. The evaluation of the Plan.

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*This Regional Advisory Committee will follow the policies and procedures as established for the WICHE Regional Advisory Council on Veterinary Medicine.

VI. Future of the Plan and Phased Implementation

Although participating states could assume the costs of operating the Regional Plan, outside funding would be required to develop the proposed new program elements. It has been recommended that the Plan should be implemented over a period of three years; at the end of that time, costs of operating the Plan would become part of the standard cost of education.

During the first phase of implementation, all three coordinating mechanisms (the School Coordinating Committee, State Coordinating Committee, and Regional Advisory Committee) would be established and begin to meet. In fact, the WICHE Commission has already authorized (June, 1980) the creation of a Regional Advisory Committee.

It has been proposed that some initial activity be undertaken to implement each major program component of the Regional Plan during year one of implementation (see Table 8). Most of the Plan would be in place by the end of year two. The cost of developing these program activities follows Table 8, in the section on Financial Plan and Costing Methodology. Operational costs have been estimated at $200 to $400 per student per year. These costs would, however, be finally determined when the total Plan is finally operational.

The operational costs of the Regional Plan would be calculated according to the methodology used by WICHE to determine the fees charged to states under the Professional Student Exchange Program. New costing studies are conducted every two years. The next study will be conducted in the spring of 1982; these new fees would be put into effect in academic year 1983-84. If the components of the proposed Regional Plan were in place by Spring of 1982, the states would begin paying operational costs of the new program in academic year 1983-84.

TABLE 8

PHASED IMPLEMENTATION OF REGIONAL OPTOMETRY PLAN

III. Program Features of the Regional Plan	Year 1 (1980-81)	Year 2 (1981-82)	Year 3 (1982-83)
A. Access and Admissions	• Determining role of State Coordinating Committees in recruiting and interviewing students. • Efforts undertaken to adjust states' support of optometry students. • Development of cooperation among three schools in recruiting students, particularly in recruiting minority students; cooperative efforts would involve developing common materials for distribution to applicants, schools, and counselors.	• Implementation of a coordinated regional plan for recruitment. • Implementation of a coordinated minority recruitment program.	
B. Cooperative Network of Off-Campus Clinical Training Sites	• Schools begin to place students from other regional schools in existing clinical sites, as space is available. • Involving State Coordinating Committees in identifying potential sites for future development. • Schools establishing appropriate relationships in the states to explore future site development. • Developing a role for State Coordinating Committee in examining existing off-campus clinical sites. • Development of learning resource materials for use by 3 schools in clinical sites.	• Implement proposed plan to return students to home state for clinical placement--all 3 schools cooperate by using existing sites. • Identification of specific sites; development of plans and of appropriate agreements in order to establish new clinical sites. • Development and implementation of training for off-campus clinical faculty. • Implementation of plans to develop new clinical sites.	• Full operation of clinical sites in all states.

TABLE 8

PHASED IMPLEMENTATION OF REGIONAL OPTOMETRY PLAN
(Continued)

III. Program Features of the Regional Plan	Year 1 (1980-81)	Year 2 (1981-82)	Year 3 (1982-83)
C. Manpower Program	• Three schools share information about manpower needs and practice opportunities in the region. • Schools develop stronger linkages with state optometric associations and State Coordinating Committees in order to identify placement opportunities. • Initial development of computerized regional data base to help match students with potential practice opportunities.	• Development of materials to help students evaluate potential practice sites. • Continued development of computerized regional data base.	
D. Institutional Resource Sharing	• Continuing education directors of 3 schools review existing resources and current way in which programs are delivered; recommendations made about ways to coordinate resources to improve delivery of continuing education to states, e.g., strengthening of clinically based continuing education offered in clinical training sites. • Schools develop mechanism to work more closely with state associations in identifying continuing education needs. • Formal coordination of library services of 3 schools. • Development and implementation by 3 schools of training for off-campus clinical faculty.	• Implement cooperative continuing education programs in response to state association needs. • Development of cooperative mechanism to funnel students into graduate programs.	

In some states legislative action would be required to increase the number of students supported by the state, in order to meet that state's projected needs for manpower and educational access. This activity would be planned and undertaken by members of the State Coordinating Committee, in coordination with the legislative schedule in each state (see schedule in Appendix E).

This Regional Plan would facilitate the cooperation of existing institutions, both public and private, in meeting the diverse needs of the WICHE states. If successful, this Plan could provide an innovative model for other health professions and for other regions grappling with problems of manpower and educational access. The decade of the 1980's will clearly be an era where better use must be made of existing resources; the West can help show the value of regional cooperation.

VII. Financial Plan and Costing Methodology

Integral to the implementation plan is the financial plan by which the full cost of the regional optometric programs will be equally shared by participating states. The financial plan presents a five-year budget projection and a costing methodology which will permit an equitable sharing of costs among the participating states.

The budget projection contains three elements:

1. The ongoing costs of the existing professional degree programs of the three schools,
2. The costs for planning, developing, and evaluating the new program elements to be implemented under the Regional Plan, and
3. The ongoing costs of the new program elements after the implementation phase is completed.

The ongoing costs of the existing programs were established using a costing methodology developed for the WICHE Professional Student Exchange Program and used since 1977 in setting the per-student fees used in that program to reimburse the "receiving" schools for their net costs in educating students from the "sending" states. The actual per-student costs in 1978-79 for each of the three schools were weighted by the number of students enrolled through the Professional Student Exchange Program to determine a weighted average cost of educating these students in 1978-79. This figure was then projected forward for five years, using an inflation rate derived from a national cost of higher education index. A factor for use of facilities was included, based on historical cost of facilities and fifty-year life, which is consistent with federal indirect cost guidelines. In this budget projection, it is assumed that services comparable to those now realized as contributed services will continue to be available on a contributed basis in the future, and they are not included

in the five-year budget. The resulting projected per-student cost figures represent, in per-student terms, the five-year budget for the ongoing costs of the existing professional degree programs of the three schools combined.

The costs for planning and developing the new program elements to be implemented under the Regional Plan are projected in detail in Appendix F. These costs are broken down into three annual budgets, consistent with the phased implementation schedule.

Appendix G shows projected ongoing costs of the new program elements of the Regional Plan in years four and five, after the three-year implementation period. By translating into an annual per-student amount, this part of the budget can be combined with the per-student cost of the existing program.

These elements are combined into a five-year budget, which is shown in Table 9.

The costing methodology, which will permit an equitable sharing of costs among the participating states, is based on the methodology developed and used for the past several years by the WICHE Professional Student Exchange Program. As such, it is understood and accepted by the states which will be participants in the regional optometry program. Its principal features are:

1. A net per-student operating cost is determined for each receiving program in a given professional field of exchange. Total operating cost of the professional degree program is reduced by clinic income, federal capitation funding, etc. The net figure is divided by the total enrollment in the program to obtain a per-student amount. From this per-student amount, the amount of tuition paid by the exchange student is subtracted.

TABLE 9

SUMMARY OF PROJECTED FIVE-YEAR BUDGET

ON-GOING COSTS IN PER-STUDENT TERMS
(Approximately 1,000 Students in Three Schools)

	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
Cost of Existing Professional Degree Programs (see Appendix F)					
Operational	$5,819	$6,238	$6,687	$7,168	$7,684
Facilities	59	59	59	59	59
Total	$5,878	$6,297	$6,746	$7,227	$7,743
Ongoing Costs of New Program Elements of Regional Plan After Implementation	--	--	--	206	206
TOTAL ONGOING	$5,878	$6,297	$6,746	$7,433	$7,949

PLANNING, DEVELOPMENT, AND EVALUATION OF NEW PROGRAM ELEMENTS OF REGIONAL PLAN
(Cost Summary for Implementation)

	Year 1	Year 2	Year 3
A. Colleges of Optometry			
PUCO	$ 82,725	$ 76,138	$ 48,700
SCCO	93,947	86,949	55,534
UCB	75,275	68,960	53,778
B. Outreach Clinics	4,550	384,050	211,550
C. Placement Network	17,155	14,855	0
D. State Coordinating Committees	19,500	19,500	19,500
E. Regional Advisory Committee	13,300	13,300	6,650
F. WICHE Administrative Costs	76,392	59,832	59,832
G. Newsletter	11,000	11,000	11,000
TOTAL	$393,844	$734,584	$466,544

2. The final net per-student amount in 1. for each program is weighted by the number of exchange students enrolled to arrive at a weighted average per-student amount.
3. This weighted average amount, based on the most recent year's actual financial statements, is projected forward and then used as the basis for the common per-student support fee to be paid to every receiving program in that field of exchange for each exchange student.
4. A per-student amount for use of facilities is added to the figure determined in 3. above.
5. A particular amount for each fiscal year is established, and the amount is adopted two to three years in advance, so that it is known at the time appropriation requests for the year concerned are initially proposed.

In applying this costing procedure to the regional optometry program, the following points were considered:

1. The existing programs of the three schools, and those new elements of the Regional Plan for which ongoing costs are projected, are equally beneficial to all students enrolled, whether they are residents of the states participating in the regional program or not. Therefore, those costs are appropriately charged to all students, to be paid partly by the student as tuition and partly by the home state in the case of students from participating states, and by the student with or without the assistance of some third party in the case of other students.
2. There is no practical way to standardize the amount of tuition to be paid at all three schools by students from the

states participating in the regional program. The schools have differing levels of per-student costs and differing relationships to the institutions or state system to which they relate. The WICHE Professional Student Exchange Program uses an approach which is judged to be reasonable and acceptable to states, students, and institutions. An exchange student attending a public institution is charged resident tuition, and one attending a private institution is charged one-third of full, regular tuition. This is judged a reasonable approach for the regional optometry program.

3. The mechanism used by WICHE has been repeatedly considered in depth, and has been refined from time to time. It is known to the states and institutions which will participate in the regional optometry program, and inclusion of the costs of the new features of the Regional Plan will fit smoothly into the regularized procedures of the existing mechanism.

The State Coordinating Committees and the Regional Advisory Committee will provide regularized channels for states and institutions to participate in the consideration of the amount of the support fee and to express any concerns they may have about the costing procedures and other aspects of the WICHE support mechanism.

The budget figures presented above show projected weighted average per-student costs (prior to the subtraction of the amount of tuition to be charged the student). The actual setting of the per-student payments for future years will be based on periodic surveys of actual costs, including actual costs of the new program elements once they have been implemented.

APPENDICES TO

A REGIONAL PLAN FOR

OPTOMETRIC EDUCATION IN THE WEST

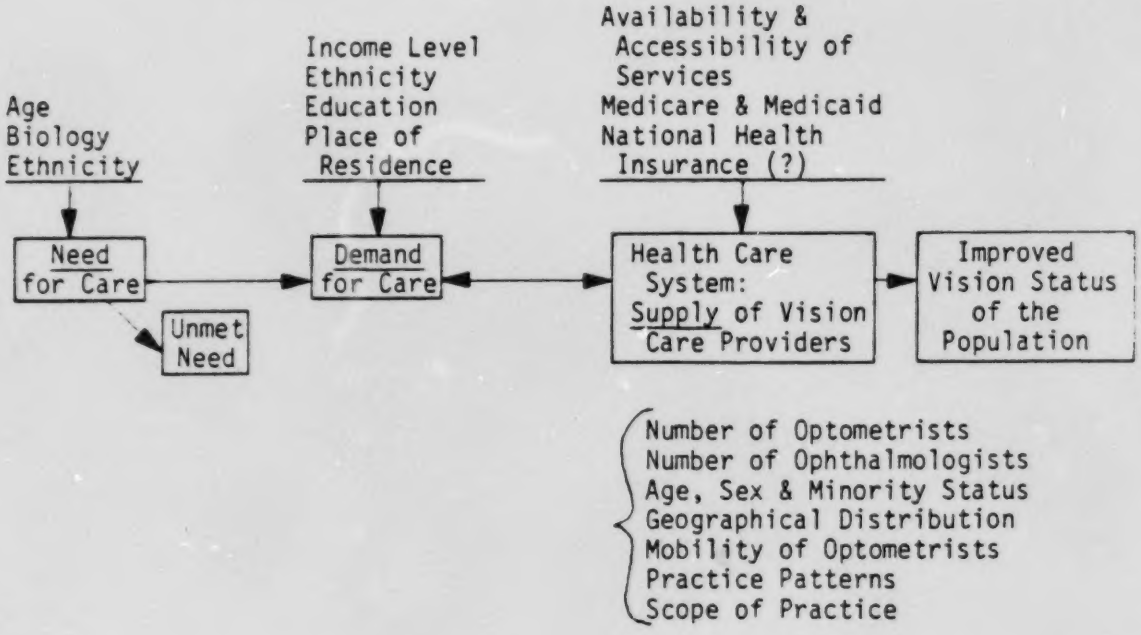
APPENDIX A

EXECUTIVE SUMMARY *

This manpower report has been written to satisfy, in part, a contract designed to develop a regional program for optometric education in the western United States. The regional plan will provide adequate training opportunities for residents in the western states, as well as help to direct graduates into underserved areas in the region.

The report contains a compilation and assessment of existing optometric manpower supply data for the thirteen western states. By provision of this contract, no primary data were collected. Available data sources used include: the Bureau of Health Manpower and the National Center for Health Statistics (USDHEW), the American Optometric Association, state optometric associations, the colleges of optometry, and the Western Interstate Commission for Higher Education. This report provides the best possible estimates or projections of the supply of optometric manpower for each state in the West from 1980 to the year 2000. It contains the student enrollment levels projected to be necessary for each state to assure certain levels of manpower supply in the year 2000. In contrast to previous manpower reports, this study includes data on the mobility of optometrists as well as data on the distribution of both optometrists and ophthalmologists by county for the region.

In addition to presenting data on the supply of vision care providers, this report also summarizes issues relating to the need and demand for vision services, as depicted in the following figure.



*Executive Summary from Vision Manpower Needs in the Western States, June 1979.

Vision problems are among the most disabling to the individual and the most expensive to society. Over half of the total population reports they have had trouble seeing. In addition, over half wears corrective lenses. Vision problems are chronic and developmental; as one ages, care is needed with increased frequency. As the population becomes more aged, this will result in an increased need for vision services. Some states, like Arizona, will experience a significant increase in need because of this aging.

Within the region, there is evidence of an unmet need for vision care. The West as a region has the greatest proportion of persons with very poor vision (20/50 or less). It is estimated that 56 percent of this group (about 921,000 citizens) could see better with proper refractive care. Furthermore, there are about 14,000 people in the region whose blindness could be prevented or cured. These are only two gross indicators of unmet need; there are many more people in the region with less serious problems who could also benefit from proper care.

The need for care reflects the services which should be provided to meet the actual requirements of the population. Demand reflects how many services people really use. Demand is affected by characteristics of the consumer (e.g., education and income) as well as characteristics of the services (for instance, availability and cost). Minority groups appear to be the most easily identified groups which under-utilize vision services.

Optometrists deliver a major amount of primary vision services and often serve as an entry point into the health system; they play a crucial role in prevention and in the early detection of serious problems. Trends within the profession include specialization, group practices, and the growth of third-party payment mechanisms. Many states have recently enacted laws which allow optometrists to use diagnostic drugs.

Most of the vision services needed in the population relate to the basic vision examination and the correction of refractive error. Optometrists and ophthalmologists overlap in their abilities to perform these services. Thus, it is clear that any useful analysis of vision manpower needs must include data on both of these professions. Policy makers who are deciding how many of various types of providers will be needed in the future must resolve the questions about cost and quality cited by this report.

For the WICHE region, the supply of optometrists has increased; in 1973, the ratio of optometrists was 10.9 per 100,000 and in 1978 it was 11.4. There is, however, a serious maldistribution of optometrists within the region. Eight states currently have ratios well below the regional average: Alaska, Arizona, Colorado, Hawaii, Nevada, New Mexico, Utah, and Washington. Even when ophthalmologists are taken into account, the same eight states appear below average in their supply of vision manpower. Furthermore, manpower projections show that a maldistribution of vision care providers will persist to the year 2000 if present trends continue. Some states will have a very low supply (Colorado and Utah) and some states face a possible oversupply (Montana, Wyoming, and Hawaii).

The model used to generate the manpower projections in this report allows for migration by both practicing and newly graduated optometrists. Attrition from death and retirement is figured on the basis of age-specific probabilities, and these numbers are subtracted from the manpower pool. New

graduates are added to the pool. A range of projections was generated by changing assumptions related to student enrollments and the in-migration of optometrists.

Two sets of manpower projections have been produced for each of the thirteen states. One set is based on the assumptions that all students who attend optometry school return to their home state and that no in-migration of optometrists occurs; these assumptions yield a low estimate of future supply. The second set of projections assumes that students return at the current observed rate and that migration continues; this method produces a high estimate.

Chapter VI provides a summary of these projections and other manpower data for each state. Based on manpower needs, it may be appropriate for some states to re-examine their policies relating to the support of optometry students.

There are three schools of optometry in the western region: the Pacific University College of Optometry, Southern California College of Optometry, and the University of California, Berkeley, School of Optometry. The total enrollment capacity of these schools is about 250 per year. If the eight states currently low in optometric manpower wished to reach the regional average and the high states wished to maintain their supply, capacity of these three schools could more than meet the region's need. Based on projected manpower needs, it does not appear that any new schools are needed in the West at this time.

In addition to manpower needs, states are also concerned with educational opportunity or the access which students have to professional education. Regionally, student access to optometric education is slightly above the national average. However, states such as Alaska, Arizona, and Colorado have relatively low opportunity in comparison to states like Montana and, more recently, Wyoming. Surprisingly, the eleven WICHE states without optometry schools have recently enrolled more students relative to population than the two states with schools.

Other characteristics of optometrists are also examined. Several years ago, the age distribution of optometrists was skewed to the high end; it now appears that the supply of young, new graduates will be offsetting those leaving practice. Women and minorities are severely underrepresented among practitioners. Although enrollment figures show steady improvement for women, minority groups do not show similar gains in the profession. In terms of urban-rural distribution, optometrists are much more likely than physicians to locate in non-urban areas.

There are a number of factors which could affect the demand for optometric services. The enactment of national health insurance could increase the demand for care among those who need it. Legislation which provides care for special groups could also generate increased demand. In addition, new means of diagnosis and treatment could result in a greater need for optometrists. The uncertainty of these issues makes it difficult to predict precisely what the real demand for optometric services will be in the future.

The goal of any manpower policy should be to meet the needs of the patient population. Providing a supply of providers is only part of the means necessary to improve the vision status of the population. By presenting both data and relevant issues, it is hoped this report will be useful to planners of higher education and health policy makers.

APPENDIX B

REPRESENTATION AT THE STATE REVIEW

State	WICHE Commissioners	Advisory Committee Members	SHEEO's State Education Agency	State Legislators	Legislative Staff	Executive Staff	State Optometry Associations	Optometry School Representatives	WICHE Staff	Health Department or HSA or SHPDA	Certifying Officer	Other
Alaska	X	X	X	X	X	X	X		Phil Sirotkin	X	X	Pat Saiki, Hawaii State Senator
Arizona		X					X		Susan Klein		X	
California	X	X	X		X		X	Dick Hopping (SCCO) Darrell Carter (U of CA)	Phil Sirotkin Susan Klein	X		
Colorado		X	X		X	X	X	Wid Bleything (PU)	Phil Sirotkin Bill McConnell Gloria Jimenez			
Hawaii	X	X		X			X	Wid Bleything (PU)	Susan Klein	X		Optometry Student
Idaho	X	X	X	X	X	X	X	Larry Clausen (PU)	Phil Sirotkin Susan Klein Bill McConnell	X	X	
Montana	X	X	X	X			X	Larry Clausen (PU)	Susan Klein	X	X	President, Montana State University WAMI, Montana State University
Nevada	X	X		X	X	X	X	Dick Hopping (SCCO)	Bill McConnell	X	X	Bureau of Services to the Blind
New Mexico	X	X	X		X	X	X	Dick Hopping (SCCO)	Bill McConnell	X	X	Public School Finance
Oregon	X	X	X	X			X	James Miller Wid Bleything (PU) Larry Clausen (PU)	Bill McConnell	X	X	
Utah	X	X	X	X	X	X	X		Phil Sirotkin Susan Klein		X	
Washington	X		X	X	X	X	X	Wid Bleything (PU) Larry Clausen (PU)	Phil Sirotkin Susan Klein	X		
Wyoming	X	X	X				X	Larry Clausen (PU)	Phil Sirotkin	X	X	

APPENDIX C

EXISTING CLINICAL SITES IN THE WICHE STATES USED BY SCHOOLS OF OPTOMETRY

State	Optometry School	Clinic Site	Population Characteristics
ALASKA:	Southern California College of Optometry	Alaska Native Medical Center Anchorage, AK	Public health service facility serving Native Alaskans
ARIZONA:	Southern California College of Optometry	Fort Defiance Tuba City Chinle Kayenta Many Farms Winslow Teec Nos Pos	Public Indian Health Service facilities serving the Navajo area
		Keams Canyon Parker Peach Springs Phoenix Sacaton San Carlos Whiteriver Yuma	Public Indian Health Service facilities serving the Phoenix area
CALIFORNIA:	Southern California College of Optometry	Fullerton Care Convalescent Hospital Fullerton, CA	Serves elderly patients
		Sherman Indian High School Health Center Riverside, CA	Serves 700-800 American Indian resident students

APPENDIX C

EXISTING CLINICAL SITES IN THE WICHE STATES USED BY SCHOOLS OF OPTOMETRY
(Continued)

State	Optometry School	Clinic Site	Population Characteristics
CALIFORNIA:	Southern California College of Optometry	Fort Ord Army Medical Center Fort Ord, CA	Active duty, retired military, and dependents
		Marine Corps Air Station El Toro, CA	
		March Air Force Base Riverside, CA	
		Naval Regional Medical Center San Diego, CA	
		Norton Air Force Base San Bernardino, CA	
		Terminal Island Shipyard Health Center Long Beach, CA	Civilian shipyard workers, active duty military, retired military, and military dependents
		Baldwin Park Optometric Center Baldwin Park, CA	Primarily Hispanic community
		Optometric Center of Los Angeles Los Angeles, CA	Open to the public--south central metropolitan area of Los Angeles
		Veteran's Administration Hospital Brentwood, CA	Veteran mental care in-patient facility

APPENDIX C

EXISTING CLINICAL SITES IN THE WICHE STATES USED BY SCHOOLS OF OPTOMETRY
(Continued)

State	Optometry School	Clinic Site	Population Characteristics
CALIFORNIA:	Southern California College of Optometry	Veteran's Administration Outpatient Clinic Los Angeles, CA	Veteran
		Children's Hospital of San Diego San Diego, CA	Specialized rotation in the hospital's Speech, Hearing, and Neurosensory Center
		USC Interdisciplinary Health Team Los Angeles, CA	Selected patients from the USC dental with multiple health problems
	University of California, Berkeley School of Optometry	Letterman Army Medical Center San Francisco, CA	Active duty military, retired military, and military dependents
		Palo Alto Veteran's Administration Hospital Vision Clinic Palo Alto, CA	Veteran--includes low vision services
		Sacramento Veteran's Administration Center Vision Clinic Sacramento, CA	Veteran--includes low vision services
		Guadalupe Health Center Oakland, CA	Primarily Hispanic community

APPENDIX C

EXISTING CLINICAL SITES IN THE WICHE STATES USED BY SCHOOLS OF OPTOMETRY
(Continued)

State	Optometry School	Clinic Site	Population Characteristics
CALIFORNIA:	University of California, Berkeley School of Optometry	Pacific Medical Center San Francisco, CA	Contact lens patients
COLORADO:	Southern California College of Optometry	Albuquerque Area Office Ignacio, CO	Patient care to Indian Health Service hospitals and ambulatory clinics--Native Americans
	Pacific University College of Optometry	Colorado Optometric Center Denver, CO	Mixed Hispanic, Black, low income, urban
HAWAII:	Southern California College of Optometry	Tripler Army Medical Center Honolulu, HI	Active duty, retired military, and dependents
	Pacific University College of Optometry	Tripler Army Medical Center Honolulu, HI	Active duty, retired military, and dependents
IDAHO:	None		
MONTANA:	None		
NEVADA:	Southern California College of Optometry	Las Vegas Low Vision Center Las Vegas, NV	Low vision services for the blind

APPENDIX C

EXISTING CLINICAL SITES IN THE WICHE STATES USED BY SCHOOLS OF OPTOMETRY
(Continued)

State	Optometry School	Clinic Site	Population Characteristics
NEW MEXICO:	Southern California College of Optometry	Acoma-Canoncito-Laguna (ACL) Albuquerque Mescalero Santa Fe Zuni Alamo Dulce Laguna Taos	Patient care to Indian Health Service hospitals and ambulatory clinics in the Albuquerque area
		Crownpoint Gallup Shiprock Fort Wingate Tohatchi	Patient care to Indian Health Service hospitals and ambulatory clinics in the Navajo area
OREGON:	Pacific University College of Optometry	Multnomah County Health Department Portland, OR	Low income White, Black, and Hispanic
UTAH:	None		
WASHINGTON:	Southern California College of Optometry	Madigan Army Medical Center Tacoma, WA	Active duty, retired military, and dependents
	Pacific University College of Optometry	Madigan Army Medical Center Tacoma, WA	Active duty, retired military, and dependents

APPENDIX C

EXISTING CLINICAL SITES IN THE WICHE STATES USED BY SCHOOLS OF OPTOMETRY
(Continued)

State	Optometry School	Clinic Site	Population Characteristics
WASHINGTON:	Pacific University College of Optometry	American Lake Veteran's Administration Hospital Tacoma, WA	VA eligible, predominantly White males, low income
		Barnes Veteran's Administration Hospital Vancouver, WA	VA eligible, predominantly White males, low income
		Indian Health Service Washington reservations	Low income Native Americans
		Seattle Indian Health Board Seattle, WA	Low income Native Americans
		Whidbey Island Naval Air Station Oak Harbor, WA	Active duty, retired military, and dependents

APPENDIX D

STATE REACTIONS TO REGIONAL PLAN

STATE	POSITIVE VALUE/ATTRACTION OF PLAN	POSSIBLE PROBLEMS OR CONCERNS
Alaska	• value of additional clinical site to serve rural areas • need to attract practitioners into remote areas	
Arizona	• some in profession see value of clinical site • program could help recruit and counsel pre-optometry students • PSEP support fees could be increased substantially to support plan development	• low rate of acceptance of Arizona students by schools of optometry • relative low level of support for social welfare programs, e.g., no Medicaid • problem to find funding to develop clinical site
California	• possibility of addressing underrepresentation of minorities in profession • delivery of care to underserved populations; particularly minority and inner city	• outside funding for development would make program more attractive • potential for California to become a sending state for field of optometry
Colorado	• state is positive toward "regional concept" • guaranteed return of students to practice in underserved areas	• need to clarify a successful strategy to recruit minorities
Hawaii	• interest in value of additional clinical placement • value of State Coordinating Committee in which profession could be involved	
Idaho	• development of coordinated system to respond to students seeking practice opportunities-value of regional data-based placement service • services that could be provided by clinic to under-served groups; particularly migrants and develop-mentally disable • potential for clinically-based continuing education and value to practitioners of contacts with students • state generally endorses regional concept	• how can plan/clinic address totality of state's needs-especially in rural areas • cost can be a barrier
Montana	• potential sites include State School for Blind, University-affiliated Program for the Developmentally Disabled at University of Montana, VA Hospital in Helena, Boulder Hospital for the Retarded • state generally endorses value of regionalism • potential for improved continuing education; the idea of optometric education center was raised, with possibility of linking with medical division of CE at MSU • increased communication between schools and state	• recent drop in number of optometry applicants seeking certification (not necessarily a problem because of high O.D. ratio in state). • questionable ability of clinical site to deal with dispersed popu-lation (enough patients in one place?) • concern that clinical sites serve primarily an educational purpose and not "use" students

APPENDIX D

STATE REACTIONS TO REGIONAL PLAN
(Continued)

STATE	POSITIVE VALUE/ATTRACTION OF PLAN	POSSIBLE PROBLEMS OR CONCERNS
Nevada	• possibility for developing another clinical site • increased communication between schools and state	• most students return to practice in state and most communities that can support an O.D. have one
New Mexico	• possibility to enroll all students in Western Schools of Optometry, and perhaps decrease total number supported to off-set operational costs of regional plan	• Practitioners question if there are enough sites that could economically support more O.D.'s if the state's ratio increases to 11.4
Oregon	• clinical site to meet unserved needs could be a selling point • potential for improved continuing education to practitioners • support for "regional" concept	• cost could be a problem
Utah	• on-site clinical facilities will attract students back to Utah • properly situated clinic could serve unmet need in rural areas • potential for clinically based CE • need for support for greater number of students recognized	• cost of establishing clinic • questionable support for more students • question of "servitude" or shifting of resources to justify funding
Washington	• additional training sites in underserved areas • possible mechanism for retaining graduates for practice in the state	• uncertainly about substantially increasing the number of state supported students
Wyoming	• possibility of having a clinical training site for both services and continuing education	• loss of flexibility in current bilateral contracts with the two private schools

APPENDIX E

SCHEDULE OF STATE LEGISLATIVE SESSIONS

State	Date Legislature Convenes	Length of Session	Approximate Date of Adjournment	Budget Consideration
ALASKA	January 19, 1981 January 11, 1982 January 10, 1983	30 Calendar Days	February 18, 1981 February 10, 1982 February 9, 1983	Annual
ARIZONA	January 12, 1981 January 11, 1982 January 10, 1983	No Later Than Third Friday in April	April 17, 1981 April 16, 1982 April 15, 1983	Annual
CALIFORNIA	December 6, 1982 (In Session Continuously	In Session Continuously	November 30 of Even Numbered Years	Annual
COLORADO	January 7, 1981 January 6, 1982 January 5, 1983	No Limit		Annual
HAWAII	January 21, 1981 January 20, 1982 January 19, 1983	60 Legislative Days	April 14, 1981 April 15, 1982 April 16, 1983	Biennial--Odd Year
IDAHO	January 12, 1981 January 11, 1982 January 10, 1983	No Limit		Annual
MONTANA	January 5, 1981 Does Not Meet in 1982 January 3, 1983	90 Legislative Days	May 8, 1981 May 5, 1983	Biennial--Odd Year

APPENDIX E

SCHEDULE OF STATE LEGISLATIVE SESSIONS
(Continued)

State	Date Legislature Convenes	Length of Session	Approximate Date of Adjournment	Budget Consideration
NEVADA	January 19, 1981	60 Calendar Days	March 20, 1981	Biennial--Odd Year
	Does Not Meet in 1982			
	January 17, 1983		March 18, 1983	
NEW MEXICO	January 20, 1981	60 Calendar Days	March 21, 1981	Annual
	January 19, 1982	30 Calendar Days	February 17, 1982	
	January 18, 1983	60 Calendar Days	March 19, 1983	
OREGON	January 12, 1981	No Limit		Biennial--Odd Year
	Does Not Meet in 1982			
	January 10, 1983			
UTAH	January 12, 1981	60 Calendar Days	March 13, 1981	Annual
	January 11, 1982	20 Calendar Days	January 31, 1982	
	January 10, 1983	60 Calendar Days	March 15, 1983	
WASHINGTON	January 12, 1981	105 Calendar Days	April 27, 1981	Biennial--Odd Year
	January 11, 1982	60 Calendar Days	March 12, 1982	
	January 10, 1983	105 Calendar Days	April 25, 1983	
WYOMING	January 13, 1981	40 Legislative Days	March 9, 1981	Biennial--Even Year
	January 12, 1982	20 Legislative Days	February 8, 1982	
	January 11, 1983	40 Legislative Days	March 7, 1983	

APPENDIX F

TOTAL IMPLEMENTATION BUDGET

	Year 1		Year 2		Year 3	
A. Colleges of Optometry						
1. Personnel	FTE		FTE		FTE	
Program Coordinator	.50	$ 16,000	.50	$ 16,000	.50	$ 16,000
Secretary	.50	5,000	.50	5,000	.50	5,000
Clinic Director	[.25	7,500]*	[.20	6,000]	[.10	3,000]
Faculty Support	.50	12,500	.50	12,500	0	
		41,000		39,500		24,000
Fringe Benefits-15%		6,150 [1,125]		5,925 [900]		3,600 [450]
Total Personnel		$ 47,150		$ 45,425		$ 27,600
2. Travel						
School coordinating meetings (3 trips x 2 persons x $350)		2,100		2,100		$ 1,400
Faculty Development Program (1 trip x 4 persons x $300)		1,200		1,200		1,200
Miscellaneous		800		800		800
Total Travel		$ 4,100		$ 4,100		$ 4,100
3. Other						
Development of instructional material & evaluation instruments		5,000		1,000		1,000
Telephone & Postage		1,200		1,200		1,200
Supplies & Copying		1,700		1,700		1,700
Total Other		[$ 7,900]		[$ 3,900]		[$ 3,900]
Total of 1, 2, & 3 for each college		$ 59,150		$ 53,425		$ 34,900
4. Overhead						
PUCO (50% of salary & benefits)		23,575		22,713		13,800
SCCO (73.8% of salary & benefits)		34,797		33,524		20,364
UCB (34.2% of salary & benefits)		16,125		15,535		9,439
TOTAL (for all 3 colleges)		$251,947		$232,047		$148,308
TOTAL (minus in-kind contributions)		$235,422		$221,247		$140,958

*Brackets [ ] mark those amounts that would be provided by in-kind contributions.

APPENDIX F

TOTAL IMPLEMENTATION BUDGET
(Continued)

	Year 1	Year 2	Year 3
B. Outreach Clinics			
1. Personnel			
1 FTE faculty @ 3 new sites @ $30,000	0	$ 45,000* [30,000]	$ 90,000 [60,000]
1 secretary/receptionist @ 3 new sites @ $10,000	0	15,000 [10,000]	30,000 [20,000]
		60,000	120,000
Fringe Benefits-15%		9,000 [6,000]	18,000 [12,000]
Total Personnel	0	$ 69,000	$138,000
2. Equipment			
Varies by size & scope of clinic (see discussion)			
Minimum costs for a full scope clinic: 1 faculty & 3 students $92,000 @ 3 sites (one time only cost)	0	276,000 [176,000]	0
3. Travel			
Faculty development program (1 trip x 13 persons x $350)	4,550	4,550	4,550
4. Overhead			
(50% of salaries & benefits)		34,500 [22,770]	69,000 [46,000]
TOTAL	$ 4,550	$384,050	$211,550
TOTAL (minus in-kind contributions)	$ 4,550	$139,280	$138,000
C. Placement Network			
Personnel	6,000	6,000	
Travel	1,000	1,000	Network becomes self-supporting from fees.
Supplies, materials	500	500	
Data base maintenance and repair costs	500	500	
Start-up costs	2,300	0	
Publicity	6,855	6,855	
TOTAL (for placement network)	$ 17,155	$ 14,855	$ 0

*This figure assumes clinics would not be operational until mid-year.

APPENDIX F

TOTAL IMPLEMENTATION BUDGET
(Continued)

	Year 1	Year 2	Year 3
D. State Coordinating Committees			
Personnel			
Costs assumed by participants			
Travel			
3 meetings per year (3 trips x 5 persons x 13 states x $100)	$ 19,500	$ 19,500	[$ 19,500]
E. Regional Advisory Committee			
Personnel			
Costs assumed by participants			
Travel			
2 meetings (2 trips x 19 persons x $350)	13,300	13,300	[6,650]
F. WICHE Administrative Costs			
Personnel	FTE	FTE	FTE
Project Director	.75 24,000	.50 16,000	.50 16,000
Secretary	1.00 12,000	1.00 12,000	1.00 12,000
	36,000	28,000	28,000
Fringe Benefits-19.2%	6,912	5,376	5,376
Total Personnel	$ 42,912	$ 33,376	$ 33,376
Travel			
15 meetings x $350	5,250	3,500	3,500
Other			
Telephone & Postage	1,200	1,200	1,200
Supplies & Copying	1,700	1,700	1,700
Office Rent	1,600	1,600	1,600
Overhead (55.3% of salaries & benefits)	23,730	18,456	18,456
TOTAL	$ 76,392	$ 59,832	$ 59,832

APPENDIX F

TOTAL IMPLEMENTATION BUDGET
(Continued)

	Year 1	Year 2	Year 3
G. Newsletter			
Editorial Support	$ 3,000	$ 3,000	$ 3,000
Printing (4 issues per year)	8,000	8,000	8,000
TOTAL	[$ 11,000]	[$ 11,000]	[$ 11,000]

APPENDIX F

COST SUMMARY FOR IMPLEMENTATION

	Year 1	Year 2	Year 3
A. Colleges of Optometry			
PUCO	$ 82,725	$ 76,138	$ 48,700
SCCO	93,947	86,949	55,534
UCB	75,275	68,960	53,778
B. Outreach Clinics	4,550	384,050	211,550
C. Placement Network	17,155	14,855	0
D. State Coordinating Committees	19,500	19,500	19,500
E. Regional Advisory Committee	13,300	13,300	6,650
F. WICHE Administrative Costs	76,392	59,832	59,832
G. Newsletter	11,000	11,000	11,000
TOTAL	$393,844	$734,584	$466,544

COST SUMMARY--MINUS IN KIND CONTRIBUTIONS

	Year 1	Year 2	Year 3
A. Colleges of Optometry	$235,422	$221,247	$140,958
B. Outreach Clinics	4,550	139,280	138,000
C. Placement Network	17,155	14,855	0
D. State Coordinating Committee	19,500	19,500	0
E. Regional Advisory Committee	13,300	13,300	0
F. WICHE Administrative Costs	76,392	59,832	59,832
G. Newsletter	0	0	0
TOTAL	$366,319	$468,014	$338,790

APPENDIX G

BUDGET JUSTIFICATION

A. Colleges of Optometry

1. Personnel

a. Program Coordinator--1.50 FTE

Senior level administrator who will coordinate overall regional program activities for the college, including budget, admissions, instruction, evaluation, continuing education, and manpower placement. Principal program liaison with other optometry colleges, WICHE, state optometric associations, state and federal government, and the public.

b. Secretary--.50 FTE

The 50 percent secretary will be required to provide staff assistance to the Program Coordinator as well as other college staff contributing to the project. In addition to clerical duties, the secretary will be responsible for routine telephone and written communication.

c. Clinic Director-.25 FTE

During the development phase, will be responsible for directing the development of one new outreach clinic, developing learning resource material for outreach programs, determining teaching mode for shared clinical programs, and selecting outreach clinical staff. Will also participate in school coordinating meetings, faculty development seminar, and outreach clinic site visits. (0.25 FTE is equal to 55 working days. This estimate is based on 29 days of development activities and 26 days of travel.)

d. Faculty Support--.5 FTE

Various faculty will be required to assist in developing learning resource materials and evaluation instruments; coordinating graduate

and library programs; assisting in the regional admissions program; and assisting in the faculty development program. Some faculty will travel to the faculty development program, outreach clinics, and to school coordinating meetings. (0.5 FTE is equal to 110 working days. This estimate is based on 92 days of development and 18 days of travel.)

2. Travel

Adequate travel funds are essential for developing and coordinating the overall program. The table below outlines the minimum expected travel for each college. Travel which will be funded from the college's budget is identified. The remaining travel would be funded by other sources.

Position	Travel	Est. Days of Travel	College Budget
Project Coordinator	3 school coordinating meetings @ $350	5	$1,050
	2 regional advisory meetings	4	0
	4 state coordinating meetings	6	0
Faculty	6 outreach clinics	9	0
	1 faculty development program @ $300 x persons	9	900
Miscellaneous	4 trips @ $200*	4	800
Director of Clinics	3 school coordinating meetings @ $350	5	1,050
	12 outreach clinics	18	0
	1 faculty development program @ $300	3	300
TOTAL		63	$4,100

*It is projected that at least four trips will be required to meet with legislators and staff or to confer with state associations or WICHE. Such travel may also involve the chief administrator of the college, but funds are requested only for the Program Coordinator. This travel is estimated at $200 per trip.

3. Other Costs

The proposed program requires that mutually acceptable teaching modes be established at the various clinical sites to facilitate the training of students from several schools at one site. To accomplish this, it is envisioned that teaching syllabi and other educational materials need to be developed as well as student, site, and program evaluation instruments prepared. These activities will incur printing, photography, consultant, and communication expenses. The total estimate is $5,000.

The office of the regional Program Coordinator will incur miscellaneous office expenses, such as phone, duplicating charges, supplies, and postage. Supplies will be required for the School Coordinating Committee meetings and the faculty development program. Telephone and postage are estimated at $100 per month; office and meeting supplies, $1,700 per year.

b. Outreach Clinics

1. Personnel

The development of three new outreach clinics is proposed. Based on the past experience of the schools, the first-year expenses for operation require approximately $40,000 in personnel costs. This includes support for a full-time clinical faculty position and a secretary/receptionist position.

The full-time faculty member would hold an academic appointment with at least one of the colleges. This person would be the responsible faculty at the outreach sites. In addition to teaching and student evaluation responsibilities, this faculty member would participate in clinical curriculum planning, assist in placement of students, coordinate local continuing education activities, and assist in program evaluation activities.

The secretary/receptionist would be required to provide secretarial support to the outreach clinical faculty as well as be responsible for patient scheduling, clinic records, and associated receptionist duties.

2. Equipment

Costs vary according to the scope, size, and location of the clinic. These costs can range from $102,000 to $325,000 per clinic.

3. Travel

One faculty development meeting will be held to provide orientation and in-service training relative to the regional program, clinical teaching methods, and student evaluation procedures. One faculty person from one outreach clinic in each state will attend (13 persons x 1 trip x $350 = $4,550).

C. Placement Network

The placement network would be implemented through a contractual arrangement with the National Health Profession Placement Network based at the University of Minnesota. The budget estimates reflect expected expenditures based on current costs for utilizing this service.

D. State Coordinating Committee Meetings

Travel is required for five persons to attend three one-day meetings in each state. The expected composition of this committee includes two representatives each from the state optometric association and state government and one representative from one of the three colleges. Travel and per diem are estimated at $100 per person for these in-state meetings (5 persons x 3 trips x 13 states x $100 = $19,500).

E. Regional Advisory Meeting

Travel is required for one representative from each state to travel to two meetings per year. Travel and per diem are estimated at $350 per person for these out-of-state meetings (13 persons x 2 trips x $350 = $9,100).

Travel is required for the Program Director and chief administrator of each college to attend the regional advisory meeting (6 persons x 2 trips x $350 = $4,200).

Total regional advisory meeting travel: $9,100 + $4,200 = $13,300.

F. WICHE

1. Personnel

The coordination of the regional program by WICHE will require a .75 FTE Project Director and a full-time secretary. Other staff may participate in program-related activities, but this will be provided as in-kind services.

The Project Director will be responsible for directing the overall coordination of the program, including Advisory Committee meetings, program evaluation activities, WICHE-related development activities, and liaison with pertinent agencies and organizations.

The full-time secretary is required to provide support to the Project Director as well as other WICHE staff when they assist in regional program activities.

2. Travel

Travel is conservatively estimated at 15 trips per year. Expected program travel includes 3 school coordinating meetings, 1 faculty development program, 39 state meetings, and 2 regional advisory meetings. Potentially, the Project Director or other WICHE staff should attend all of these. Travel is estimated at 15 out-of-state trips at $350 each. This will allow attendance

at the regional and school coordinating meetings, and some of the state meetings.

3. Other

Miscellaneous office expenses include telephone and postage, $100 per month; supplies and copying, $1,700 per year; and office rent, $1,600 per year.

G. Newsletter

The common means of communicating the accomplishment of program activities to WICHE Commissioners, legislators, practitioners, appropriate state and federal employees, and the public will be a multi-paged newsletter published quarterly. This activity will be under the direction of one entity (most likely WICHE), with input from the outreach clinics and the colleges. A part-time staff writer and/or editorial resources person will be required to direct the development of the newsletter. In addition, funds will be required for printing costs.

APPENDIX H

OPERATIONAL BUDGET FOR NEW REGIONAL PROGRAM COMPONENTS

	Year 4		Year 5	
A. Colleges of Optometry				
1. Personnel	FTE		FTE	
Program Coordinator	.50	$ 16,000	.50	$ 16,000
Secretary	.50	5,000	.50	5,000
		21,000		21,000
Fringe Benefits-15%		3,150		3,150
Total Personnel		$ 24,150		$ 24,150
2. Travel				
School coordinating meetings (2 trips x 2 persons x $350)		1,400		1,400
3. Other				
Telephone & Postage		1,200		1,200
Supplies & Copying		1,700		1,700
Total of 1, 2, & 3 for each college		$ 28,450		$ 28,450
4. Overhead				
PUCO (50% of salary & benefits)		12,075		12,075
SCCO (73.8% of salary & benefits)		17,822		17,822
UCB (34.2% of salary & benefits)		8,259		8,259
TOTAL (for all 3 colleges)		$123,506		$123,506
B. Outreach Clinics				
1. Personnel				
0.5 FTE @ 3 new sites @ $30,000		45,000		45,000
Fringe Benefits-15%		6,750		6,750
Total Personnel		51,750		51,750
2. Travel				
Faculty development program (1 trip x 13 persons x $350)		4,550		4,550
3. Overhead				
(50% of salaries & benefits)		25,875		25,875
TOTAL		$ 82,175		$ 82,175

APPENDIX H

OPERATIONAL BUDGET FOR NEW REGIONAL PROGRAM COMPONENTS (Continued)

	Year 4	Year 5
C. Placement Network		
Self-Supporting		
D. State Coordinating Committees		
In-Kind Contribution		
E. Regional Advisory Committee		
In-Kind Contribution		
F. WICHE Administrative Costs		
In-Kind Contribution		
G. Newsletter		
In-Kind Contribution		

TOTAL OPERATIONAL COSTS (ESTIMATED)

	Year 4	Year 5
A. Colleges of Optometry	$123,506	$123,506
B. Outreach Clinics	82,175	82,175
C. Placement Network	0	0
D. State Coordinating Committees	0	0
E. Regional Advisory Committee	0	0
F. WICHE Administrative Costs	0	0
G. Newsletter	0	0
TOTAL	$205,681	$205,681

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